

**AMENDMENTS TO THE CLAIMS:**

Please replace the claims with the claims provided in the listing below wherein status, amendments, additions and cancellations are indicated.

1. - 6. (Canceled)

7. (Currently amended) ~~A method~~ Method for examining a blood vessel, comprising:

laser Doppler scanning a blood vessel, thereby to determine an exterior diameter thereof and an interior diameter thereof; and

determining, ~~from the foregoing,~~ vascular wall thickness of the blood vessel based upon determination of said exterior diameter and said interior diameter in said laser Doppler scanning.

8. (Currently amended) ~~A method~~ Method according to claim 7, wherein the determination of the exterior diameter is from data collected in a reflectivity image resulting from the laser Doppler scanning.

9. (Currently amended) ~~A method~~ Method according to claim 8, wherein the determination of the interior diameter is from data determining a diameter of a moving blood column in the vessel.

10. (Currently amended) A method ~~Method~~ according to claim 9, wherein the data determining the diameter of a moving blood column is data collected in a laser Doppler image resulting from the laser Doppler scanning.

11. (Currently amended) A method ~~Method~~ according to claim 10, wherein the vascular wall thickness is determined by determining a difference between data collected in the reflectivity image and data collected in the laser Doppler image.

12. (Currently amended) A method ~~Method~~ according to claim 7, wherein the vessel is of an eye.

13. (Currently amended) A method ~~Method~~ according to claim 12, wherein the vessel is of a retina.

14. (Currently amended) An apparatus ~~Apparatus~~ for examining a blood vessel to determine vascular wall thickness thereof, comprising:

a laser Doppler scanner for producing a first image or a first set of data corresponding to the first image relating to exterior diameter of the vessel and a second image or a second set of data corresponding to the second image relating to interior diameter of the vessel; and

an evaluation unit configured for determining vascular wall thickness of the vessel from the first and second images or sets of data.

15. (Currently amended) An apparatus ~~Apparatus~~ according to claim 14, wherein the laser Doppler scanner is for producing the second image or the second set of data by determining diameter of a moving blood column in the vessel.

16. (Currently amended) An apparatus ~~Apparatus~~ according to claim 14 or 15, further comprising a computer for said determining the vascular wall thickness from said first and second images or sets of data.

17. (Currently amended) An apparatus ~~Apparatus~~ according to claim 14 or 15, wherein the laser Doppler scanner is for producing the images or the data corresponding thereto of a blood vessel of an eye.

18. (Currently amended) An apparatus ~~Apparatus~~ according to claim 14 or 15, wherein the laser Doppler scanner is for producing the images or the data corresponding thereto of a blood vessel of a retina.

19-20. (Cancelled)

21. (New) A method for examining a blood vessel, comprising:

- scanning the blood vessel with a Doppler laser;
- acquiring reflectivity image data of the blood vessel;
- acquiring Doppler image data of a moving blood column in the blood vessel;
- determining an exterior diameter of the blood vessel from the reflectivity image data;
- determining an interior diameter of the blood vessel from the Doppler image data of the moving blood column; and
- determining a vascular wall thickness of the blood vessel by determining a difference of the exterior diameter and the interior diameter of the blood vessel.

22. (New) A method according to claim 21, wherein the blood vessel is in an eye.

23. (New) A method according to claim 22, wherein the blood vessel is of a retina.

24. (New) An apparatus for examining a blood vessel by performing the method of claim 21, comprising:

- a Doppler laser scanning the blood vessel; and

a computer configured to acquire reflectivity image data of the blood vessel and Doppler image data of a moving blood column in the blood vessel, to determine an exterior diameter of the blood vessel from the reflectivity image data, to determine an interior diameter of the blood vessel from the Doppler image data of the moving blood column and to determine a vascular wall thickness of the blood vessel by determining a difference of the exterior diameter and the interior diameter of the blood vessel.

25. (New) An apparatus according to claim 24, wherein the Doppler laser is for scanning the blood vessel in an eye.

26. (New) An apparatus according to claim 25, wherein the Doppler laser is for scanning the blood vessel of a retina.